

Attachment to Preliminary Amendment dated May 31, 2001

**Marked-up Claims 1-8**

1. (Amended) A high-temperature superconductor arrangement having a superconductor [(1)] and having an electrical bypass [(2)] which is in electrical and mechanical contact with the superconductor [(1)], with the superconductor [(1)] being at a superconductor temperature  $T_{SC}$  and the bypass [(2)] being at a bypass temperature  $T_{BP}$ , [characterized in that] wherein the bypass [(2)] produces a compressive pressure on the superconductor [(1)] in a current flow direction [(I)] even when the superconductor temperature  $T_{SC}$  is below the bypass temperature  $T_{BP}$ .

2. (Amended) The arrangement as claimed in claim 1, with the superconductor [(1)] having a first thermal coefficient of expansion  $a_{SC}$  and the bypass [(2)] having a second thermal coefficient of expansion  $a_{BP}$  [characterized in that] wherein, at a temperature  $T_0$  which is above the maximum operating temperature of the bypass [(2)]:

$$a_{BP} \cdot (T_0 - T_{BP}) > a_{SC} \cdot (T_0 - T_{SC})$$

3. (Amended) The arrangement as claimed in claim 2, with  $T_C$  being the critical temperature of the superconductor [(1)], [characterized in that] wherein, for the maximum bypass temperature  $T_{BP}^{max}$ :

$$\frac{T_{BP}^{max} - T_C}{T_0 - T_C} < \frac{\alpha_{BP} - \alpha_{SC}}{\alpha_{BP}} .$$

**Attachment to Preliminary Amendment dated May 31, 2001**

**Marked-up Claims 1-8**

4. (Amended) The arrangement as claimed in claim 1, [characterized in that] wherein the superconductor [(1)] is in strip form and has two main surfaces [(10, 11)] parallel to the current flow direction [(I)], and [in that] wherein the bypass [(2)] is in contact with the superconductor [(1)] via both main surfaces [(10, 11)].

5. (Amended) The arrangement as claimed in claim 4, [characterized in that] wherein the superconductor has two layers which are separated by an electrical insulator and in which the current flows essentially in the opposite direction.

6. (Amended) The arrangement as claimed in claim 1, [characterized in that] wherein the bypass [(2)] is made of steel and there is a solder layer or an electrically conductive adhesive layer [(20)] between the superconductor [(1)] and the bypass [(2)].

7. (Amended) A method for producing a high-temperature superconductor arrangement having a superconductor [(1)] and having an electrical bypass [(2)] which is in electrical and mechanical contact with the superconductor [(1)], with the superconductor [(1)] being at a superconductor temperature  $T_{SC}$  and having a first thermal coefficient of expansion  $a_{SC}$ , and the bypass [(2)] being at a bypass temperature  $T_{BP}$  and having a second thermal coefficient of expansion  $a_{BP}$ ,

09642630 "0340" 0340

8. (Amended) The method as claimed in claim 7, [characterized in that] wherein the bypass [(2)] is made of steel and is brought into contact with the superconductor [(1)] by means of soldering or bonding.